UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,567	10/30/2003	Maurizio Pilu	300200058-2	5917

22879 7590 04/16/2010

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
3404 E. Harmony Road
Mail Stop 35
FORT COLLINS, CO 80528

EXAMINER
HERNANDEZ, NELSON D

ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
04/16/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
ipa.mail@hp.com
laura.m.clark@hp.com

Office Action Summary	Application No.	Applicant(s)	
	10/696,567	PILU ET AL.	
	Examiner	Art Unit	
	Nelson D. Hernández Hernández	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7,11-25,28-38,40,42,44,46,47,51,54 and 56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7,11-25,28-38,40,42,44,46,47,51,54 and 56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Examiner acknowledges the amended claims filed on February 23, 2010. **Claims 1-5, 7, 11-25, 28-38, 40, 42, 44, 46, 47, 51and 54** have been amended. **Claims 6, 8-10, 26, 27, 39, 41, 43, 45, 48-50, 52, 53, 55 and 57-60** have been cancelled.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 21, 40, 44, 51 and 54 have been considered but are moot in view of the new grounds of rejection. The Applicant further argues the following:

a. "None of the cited references recites generating a saliency signal both to indicate user interest in a picture and to control at least one operation of the apparatus apart from recording the value of the saliency signal in the memory as recited in claim 1."

➢ The Examiner disagrees. Metcalfe discloses generating saliency signal to indicate user interest in a picture (*Metcalfe discloses generating a level of interest (LOI) set by the user when using button 112*) and that at least one operation of the apparatus is controlled based on the saliency signal (*Metcalfe discloses setting the LOI while the camera is activated to take pictures, and storing said LOI associated with the images so that said LOI can be used to control the*

reproduction of the images (i.e. printing, creating thumbnail files for photo albums, etc.)) being arranged to be controlled in response to the saliency signal (as discussed in page 6, line 31 – page 7, line 8 , Metcalfe discloses that the saliency signal (LOI) can be used to control the reproduction of the images (i.e. printing, creating thumbnail files for photo albums, etc.)) (See page 4, line 5 – page 5, line 23; page 6, line 23 – page 7, line 8). Therefore, the combined teaching of Metcalfe in view of Takahashi teaches the limitations of claim 1 as snow presented.

b. "None of the cited references recites generating a saliency signal both to indicate user interest in a picture and to control at least one operation of the apparatus to process the image signal as recited in claim 21."

➢ The Examiner disagrees. As discussed above, Metcalfe discloses generating saliency signal to indicate user interest in a picture (*Metcalfe discloses generating a level of interest (LOI) set by the user when using button 112*) and that at least one operation of the apparatus is controlled based on the saliency signal (*Metcalfe discloses setting the LOI while the camera is activated to take pictures, and storing said LOI associated with the images so that said LOI can be used to control the reproduction of the images (i.e. printing, creating thumbnail files for photo albums, etc.)) being arranged to be controlled in response to the saliency signal (as discussed in page 6, line 31 – page 7, line 8 , Metcalfe discloses that the saliency signal (LOI) can be used to control the*

reproduction of the images (i.e. printing, creating thumbnail files for photo albums, etc.)) (See page 4, line 5 – page 5, line 23; page 6, line 23 – page 7, line 8). Therefore, the combined teaching of Metcalfe in view of Takahashi teaches the limitations of claim 1 as snow presented.

c. "None of the cited references recites two or more user controls to receive user input to generate first and second saliency signals and combining those saliency signals to form a complex saliency signal."

➢ The Examiner disagrees. Takahashi teaches circuitry to combine said first and second saliency signals while the image signal is being produced to provide a composite saliency signal (*Takahashi discloses that the auxiliary information has persons information and degree of importance of said persons and that the auxiliary information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26 (see persons information and the degree of importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) (This teaches the combination of the two saliency signals while the image signal is being produced (the persons information and the degree of importance information stored/displayed together in association with the image while the image is being captured upon operation of the user) to create a composite saliency signal as claimed. Therefore, by*

teaching that the person's information and the degree of importance information is stored/displayed together in association with the image, Takahashi discloses circuitry for combining said first and second saliency signals while the image signal is being produced to provide a composite saliency signal as claimed). And, as will be discussed in this Office Action, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of having the camera with a plurality of operation controls to generate different saliency signals to be combined to control the operation of the display to further displaying the combined saliency signal being assign to the image data as taught in Takahashi to modify the teaching of Metcalfe to have at least two physically or mechanically operable user controls, each of the user controls for generating first and second saliency signals; that said saliency circuitry combines said first and second saliency signals to form a composite saliency signal; that the operation of at least part of the electronic camera being arranged to be controlled in response to the complex saliency signal. The motivation to do so would have been to provide the user with a user friendly interface that would allow changing the degree of importance of the images being captured and would also allow the user to be aware of the information being added to the image data.

d. "None of the cited references recites a combination of 1) a user control to receive user input to generate a first saliency signal and 2) a saliency circuit to

automatically generate an image related second saliency signal, wherein the first and second saliency signals are combined to provide a composite saliency signal."

➢ The Examiner disagrees. As will be discussed in this Office Action, Takahashi discloses a physically or mechanically operable user control (*Takahashi discloses the use of buttons 109 to set auxiliary information (which the Examiner is interpreting as the saliency information) related to the image data being captured; page 6, ¶ 0106. Takahashi further discloses the use of a pressure sensor 109a and sweat sensor 109b to determine the auxiliary information related to the image data (page 6, ¶ 0112 – page 7, ¶ 0114*) to receive an input from a user and generate a first saliency signal while the image signal is being produced (*Takahashi further discloses that the auxiliary information includes information related to the persons (i.e. son, daughter, friend, father, mother) (see figs. 23(a) and 23 (b); page 8, ¶ 0117 - page 9, ¶ 0124)) to receive an input from a user and to generate, in response to the input from the user a saliency signal (auxiliary information having information such as persons information)*), saliency circuitry to automatically generate an image related second saliency signal in response to the image signal (*Takahashi further teaches that the auxiliary information includes a degree of importance of said persons appearing in the image data, and that said degree of importance can be determined based on the time length of a scene where a particular person set by the user appear; see page 8, ¶ 0119. Takahashi further teaches that the level of*

importance of a particular scene would have a value between 0 (0 = not important) and 1 (1 = most important) with increments of 0.1 that can be determined based on the excitement of the user by using a pressure sensor of a sweat sensor or by having a measurement of loudness in the scene being captured (See ¶ 0119). Takahashi further discloses that the level of importance which can be set manually could also be set automatically by use of said pressure, sweat or loudness sensors (Also in ¶ 0119)), and circuitry to combine said first and second saliency signals while the image signal is being produced to provide a composite saliency signal (*Takahashi discloses that the auxiliary information has persons information and degree of importance of said persons and that the auxiliary information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26 (see persons information and the degree of importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) (This teaches the combination of the two saliency signals while the image signal is being produced (the persons information and the degree of importance information stored/displayed together in association with the image while the image is being captured upon operation of the user) to create a composite saliency signal as claimed. Therefore, by teaching that the person's information and the degree of importance information is stored/displayed together in association with the image, Takahashi discloses*

circuitry for combining said first and second saliency signals while the image signal is being produced to provide a composite saliency signal as claimed), wherein the first saliency signal, the second saliency signal, and the composite saliency signal are to indicate an amount of user interest in the viewed scene (Considering that the user sets the first saliency signal and the second saliency signal (*As discussed above, information related to the persons (i.e. son, daughter, friend, father, mother*) *and the level of importance of a particular scene would have a value between 0 (0 = not important) and 1 (1 = most important) with increments of 0.1 that can be determined based on the excitement of the user by using a pressure sensor of a sweat sensor or by having a measurement of loudness in the scene being captured (See ¶ 0119) and as shown in figs. 25 and 26, the composite saliency signal that is displayed on the screen having the first and second saliency signals combined to illustrate the level of importance of the scene being produced (page 8, ¶ 0118 – page 9, ¶ 0124)*)

e. "None of the cited references recites an apparatus including a buffer having a capacity that is to adaptively change in response to a change in the value of the saliency signal.

➢ The Examiner disagrees. As will be discussed in this Office Action, Misawa et al. discloses a memory (*Fig. 1: 40*) (*Page 2, ¶ 0033; page 3, ¶ 0036-0040 and ¶ 0043-0044*) and having a capacity to store picture signals determined in response to the saliency signal (*Misawa et al. discloses that that when*

capturing images if the priority of the image being captured is high and the capacity of the memory 40 is not enough to store the image, images with lower priority would be erased to provide space to store the new image having higher capacity. In the case that the new captured image has a lower capacity compared to the images already stored in memory, said new image with lower capacity would not be stored and a message would be displayed indicating that no memory capacity is available (Page 3, ¶ 0038-0045). This teaches that the memory has a capacity to store picture signals determined in response to the saliency signal as claimed since the capacity of the memory is being controlled based on the priority given to the images), wherein the capacity of the memory is to adaptively change in response to a change in the value of the saliency signal *(As discussed above, Misawa et al. discloses that when capturing images if the priority of the image being captured is high and the capacity of the memory 40 is not enough to store the image, images with lower priority would be erased to provide space to store the new image having higher capacity. In the case that the new captured image has a lower capacity compared to the images already stored in memory, said new image with lower capacity would not be stored and a message would be displayed indicating that no memory capacity is available (Page 3, ¶ 0038-0045). This teaches that the capacity of the memory is to adaptively change in response to a change in the value of the saliency signal as claimed since the memory is to adaptively change its capacity based on the priority selected by the user for a current image (i.e. if the user selected a high*

priority and the memory is already full, the camera would erase an image with normal priority to store the image with high priority).

f. "None of the cited references recites an apparatus including a picture selection circuitry controlled by a saliency signal and a memory to retain or discard images based on the saliency signal.

➢ The Examiner disagrees. As will be discussed in this Office Action, **Matsumoto et al.** teaches the concept of having a video recording apparatus (*Fig. 2*) of a surveillance system, recording video data captured by an electronic camera (*See fig. 1*), wherein when an alarm is activated, the importance of the video is determined to be high as compared to when the alarm is not activated (*Col. 3, lines 46-67*). In col. 4, lines 4, lines 1-19, Matsumoto et al. further teaches that based on the degree of importance of the image data being recorded, when the memory has no residual capacity images that have lower level of importance would be identified and deleted or overwritten so that images with high degree of importance would be stored in the storage means (*This teaches that the memory is to either retain or discard the image based on a value of the saliency signal as claimed since the memory would store the image signal in place of a stored image when the value of the saliency signal is greater than a value of a second saliency signal associated with the stored image and the memory is full as claimed*). The Examiner understands that it would have been obvious to one of ordinary skill in the art a the time the invention was made to

apply the concept of replacing images with lower level of importance with images captured with higher levels of importance when the memory has no residual capacity, images that have lower level of importance would be identified and deleted or overwritten as discussed in Matsumoto et al. to modify the teaching of Metcalfe and Takahashi by having the memory retaining or discarding the image based on the value of the saliency signal. The motivation to do so would have been to record the monitoring image data having a high degree of importance as much as possible as suggested in Matsumoto et al. (*Col. 7, lines 35-43*).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 44, 46 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi, US 2002/0041757 A1.

5. **Regarding claim 44**, **Takahashi** discloses an imaging system comprising an electronic camera (*See figs. 4(a), 4(b), 8, 9(a), 9(b), 10, and 11*) to produce an image signal representative of a viewed scene, a physically or mechanically operable user control (*Takahashi discloses the use of buttons 109 to set auxiliary information (which the Examiner is interpreting as the saliency information) related to the image data being captured; page 6, ¶ 0106. Takahashi further discloses the use of a pressure sensor*

109a and sweat sensor 109b to determine the auxiliary information related to the image data (page 6, ¶ 0112 – page 7, ¶ 0114) to receive an input from a user and generate a first saliency signal while the image signal is being produced (*Takahashi further discloses that the auxiliary information includes information related to the persons (i.e. son, daughter, friend, father, mother) (see figs. 23(a) and 23 (b); page 8, ¶ 0117 - page 9, ¶ 0124)) to receive an input from a user and to generate, in response to the input from the user a saliency signal (auxiliary information having information such as persons information)*), saliency circuitry to automatically generate an image related second saliency signal in response to the image signal (*Takahashi further teaches that the auxiliary information includes a degree of importance of said persons appearing in the image data, and that said degree of importance can be determined based on the time length of a scene where a particular person set by the user appear; see page 8, ¶ 0119. Takahashi further teaches that the level of importance of a particular scene would have a value between 0 (0 = not important) and 1 (1 = most important) with increments of 0.1 that can be determined based on the excitement of the user by using a pressure sensor of a sweat sensor or by having a measurement of loudness in the scene being captured (See ¶ 0119). Takahashi further discloses that the level of importance which can be set manually could also be set automatically by use of said pressure, sweat or loudness sensors (Also in ¶ 0119)*), and circuitry to combine said first and second saliency signals while the image signal is being produced to provide a composite saliency signal (*Takahashi discloses that the auxiliary information has persons information and degree of importance of said persons and that the auxiliary*

information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26 (see persons information and the degree of importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) (This teaches the combination of the two saliency signals while the image signal is being produced (the persons information and the degree of importance information stored/displayed together in association with the image while the image is being captured upon operation of the user) to create a composite saliency signal as claimed. Therefore, by teaching that the person's information and the degree of importance information is stored/displayed together in association with the image, Takahashi discloses circuitry for combining said first and second saliency signals while the image signal is being produced to provide a composite saliency signal as claimed), wherein the first saliency signal, the second saliency signal, and the composite saliency signal are to indicate an amount of user interest in the viewed scene (Considering that the user sets the first saliency signal and the second saliency signal (*As discussed above, information related to the persons (i.e. son, daughter, friend, father, mother) and the level of importance of a particular scene would have a value between 0 (0 = not important) and 1 (1 = most important) with increments of 0.1 that can be determined based on the excitement of the user by using a pressure sensor of a sweat sensor or by having a measurement of loudness in the scene being captured (See ¶ 0119) and as shown in figs. 25 and 26, the composite saliency signal that is displayed on the screen having the first and second*

saliency signals combined to illustrate the level of importance of the scene being produced (page 8, ¶ 0118 – page 9, ¶ 0124)), and the composite saliency signal is to be used to control operation of at least a part of the imaging system (*Takahashi discloses that the auxiliary information has persons information and degree of importance of said persons and that the auxiliary information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26 (see persons information and the degree of importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) being arranged to be controlled in response to the composite saliency signal (based on the auxiliary information the display would display the auxiliary information as shown in figs. 25 and 26*).

6. **Regarding claim 46**, Takahashi discloses a user operable picture taking control to enable the electronic camera to take pictures (*shooting button 104 as shown in fig. 4 (b)*).

7. **Regarding claim 47**, Takahashi discloses that the first saliency signal is to include more than two values (*As shown in figs. 23 (a) and 23 (b), Takahashi discloses that more than one person can be selected (i.e. the son and the daughter); page 8, ¶ 0119*).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 3-5, 11-21, 23-25 and 28-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe, AU 743216 B in view of Takahashi, US 2002/0041757 A1.

10. **Regarding claim 1, Metcalfe** discloses a camera apparatus (*See fig. 1*) comprising an electronic camera (*See fig. 1*) to produce an image signal, a first user operable control (*111 as shown in fig. 1*) to selectively activate the electronic camera to take pictures, and a second user operable control (*112 as shown in fig. 1, note that the limitations "an additional physically or mechanically operable user control" are written as optional elements by using the word "or"*) to receive an input from a user and to generate, in response to the input from the user a saliency signal to indicate user interest in a picture (*Metcalfe discloses generating a level of interest (LOI) set by the user when using button 112*), the saliency signal to have at least one of (a) a value selected from at least three different discrete values (*Metcalfe discloses assigning a level of interest to the image data being recorded, wherein the user can variably assign a plurality of level of interest through the capture of the video sequence; see Fig. 3. This teaches generating a saliency signal that is selected from at least three different discrete values while the image signal is being produced*), or (b) a value selected fro a

continuous range of values (*Metcalfe discloses assigning a level of interest to the image data being recorded, wherein the user can variably assign a plurality of level of interest through the capture of the a video sequence; see Fig. 3. This teaches generating a saliency signal that have a value selected fro a continuous range of values*), a circuit to record the value of the saliency signal based on the input received via the second control contemporaneously with activation of the first control (*Metcalfe discloses that the LOI is stored as the frames are captured by the video camera 101 (Page 5, lines 8-35) and also that after operation of the record button 111, the LOI signals can be input by the user and recorded by the video camera (Page 4, lines 5-32). This inherently teaches a circuitry to record the value of the saliency signal based on the input received via the second control contemporaneously with activation of the first control as claimed since a circuitry is necessary to perform the recording operation of the LOI to the tape and also considering that the operation to record LOI signals can be performed right after the record button to capture image frames is operated as taught in Metcalfe. It is also noted that the word "contemporaneous" is defined as "Originating, existing, or happening during the same period of time" (Definition from "The American Heritage® Dictionary of the English Language", Fourth Edition, 2000)*), and a memory arranged to store the image signal and the saliency signal (*video cassette120 as shown in fig. 1; page 4, lines 5-13; page 5, lines 4-35*), wherein at least one operation of the apparatus is controlled based on the saliency signal (*Metcalfe discloses setting the LOI while the camera is activated to take pictures, and storing said LOI associated with the images so that said LOI can be used to control the reproduction of the images (i.e. printing, creating*

thumbnail files for photo albums, etc.)) being arranged to be controlled in response to the saliency signal (as discussed in page 6, line 31 – page 7, line 8 , Metcalfe discloses that the saliency signal (LOI) can be used to control the reproduction of the images (i.e. printing, creating thumbnail files for photo albums, etc.)) (See page 4, line 5 – page 5, line 23; page 6, line 23 – page 7, line 8).

Metcalfe does not explicitly disclose that the at least one operation is different from recording the value of the saliency signal in the memory.

However, **Takahashi** discloses an electronic camera (*See figs. 4(a), 4(b), 8, 9(a), 9(b), 10, and 11*) producing image signal, comprising a first user operable control (*shooting button 104 as shown in fig. 4 (b)*) to selectively activate the electronic camera to take pictures, and a second user operable control (*Takahashi discloses the use of buttons 109 to set auxiliary information (which the Examiner is interpreting as the saliency information) related to the image data being captured; page 6, ¶ 0106. Takahashi further discloses the use of a pressure sensor 109a and sweat sensor 109b to determine the auxiliary information related to the image data (page 6, ¶ 0112 – page 7, ¶ 0114). Also Takahashi discloses that the auxiliary information includes information related to the persons (i.e. son, daughter, friend, father, mother) and a degree of importance of said persons appearing in the image data (see figs. 23(a) and 23 (b); page 8, ¶ 0117 - page 9, ¶ 0124)*) to receive an input from a user and to generate, in response to the input from the user a saliency signal to indicate user interest in a picture (*auxiliary information having information such as persons information and degree of importance of the persons in the image*), the saliency signal to have at least one of (a) a

value selected from at least three different discrete values (*as shown in figs. 23(a) and 23(b), the persons information and degree of importance of the persons in the image can change in value between a plurality of values (i.e. three or more values as claimed)*), or (b) a value selected from a continuous range of values (*the auxiliary information can be changed during the capture of the image signal to a plurality of continuous values as shown in figs. 23(a) and 23(b)*), and a memory (*Fig. 1: 13*) arranged to store the image signal and the saliency signal (*Takahashi further teaches storing the auxiliary information in the header of the scene; page 8, ¶ 0123 – page 9, ¶ 0126*), wherein at least one operation of the apparatus is controlled based on the saliency signal (*Takahashi discloses recording the auxiliary information and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26; page 8, ¶ 0118 – page 9, ¶ 0124). It is noted that by teaching that based on the auxiliary information the display would display the auxiliary information Takahashi discloses that at least one operation of the apparatus is controlled based on the saliency signa*l), the at least one operation being different from to recording the saliency signal in the memory (*The Examiner is interpreting displaying the auxiliary information using the display of the camera as the operation that is different from recording the saliency signal in the memory as claimed*). Displaying the auxiliary information while capturing the image data is advantageous because it would provide the user with a user friendly interface

that would allow changing the degree of importance of the images being captured and would also allow the user to be aware of the information being added to the image data.

Therefore, taking the combined teaching of Metcalfe in view of Takahashi as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of having the camera further displaying the salient signal being assign to the image data as taught in Takahashi to modify the teaching of Metcalfe to perform an operation in response to the saliency signal, the operation being different from recording the saliency signal in the memory. The motivation to do so would have been to provide the user with a user friendly interface that would allow changing the degree of importance of the images being captured and would also allow the user to be aware of the information being added to the image data.

11. **Regarding claim 3**, the combined teaching of Metcalfe in view of Takahashi as discussed and analyzed in claim 1 further teaches a buffer to receive the image signal, the buffer having a capacity controlled by the value of the saliency signal (*In a further embodiment, Takahashi discloses the concept of determining the amount of data to be transmitted based on the cost of transmission service; wherein the allowed length of data (L) is determined and compared to the amount of data to be transmitted, if the amount of data to be transmitted the apparatus would select video section with a priority higher than a threshold value. If after selecting those video with the priority higher than a threshold, the length of data still more than the allowed length, the apparatus would increase the priority threshold, however, if the length is less that the allowed length, the*

video signals are transmitted (Page 12, ¶ 0151-0154). By teaching adjusting the amount of data to be transmitted based on the length allowed for transmission and also based on the priority of the video signals to be transmitted, Takahashi inherently discloses "a buffer to receive the image signal, the buffer having a capacity controlled by the value of the saliency signal" as claimed since the amount being adjusted in the apparatus needs to be in a particular buffer or memory prior to transmission in order to properly select the video signals with higher priority). One of an ordinary skill in the art would have found obvious to apply the concepts of adjusting the amount of data to be transmitted based on the priority set to the video signals to further modify the camera apparatus to have a buffer for receiving said image signal, the buffer having a capacity arranged to be controlled by the value of the saliency signal during operation of the camera apparatus with the motivation of select as many as possible the most important video signals from the video data for transmission as suggested by Takahashi (*Page 12, ¶ 0154).*

12. **Regarding claim 4**, the combined teaching of Metcalfe in view of Takahashi as discussed and analyzed in claim 1 further teaches image selection circuitry to receive the saliency and image signals and to selectively pass the image signal based on the saliency signal (*As taught in Metcalfe, the camera receives the saliency signal (LOI) and based on said saliency signal, when reproducing, the camera would select particular images based on the degree of importance as set by the user when recording the images. By teaching that the images with a high LOI would be selected for creating an*

album or to be printed with high quality further teaches that images that do not have a high LOI would be passed or skipped since only the images with a high LOI would be displayed in the virtual album. Metcalfe as applied reads on "...image selection circuitry to receive the saliency and image signals and to selectively pass the image signal based on the saliency signal" as claimed since the display or skip of images is determined based on the LOI set. (See pages 5-7, specifically page 6, line 31 – page 7, line 8)).

13. **Regarding claim 5**, the combined teaching of Metcalfe in view of Takahashi as discussed and analyzed in claim 1 further teaches management circuitry to selectively retain in the memory (*memory 13 in Takahashi, fig. 1*) images associated with higher saliency levels in preference to images with lower saliency levels (*As discussed with respect to claim 1, Takahashi further discloses that the images are recorded or transmitted based on the importance level of the image, wherein only images with high importance level can be recorded in order to reduce the amount of use of the recording medium; page 5, ¶ 0094*). It would have been obvious to one of an ordinary skill in the art at the time the invention was made to modify the teaching of Metcalfe with the concepts and teaching of Takahashi to further include management circuitry to selectively retain in the memory, images associated with higher saliency levels in preference to images with lower saliency levels. The motivation to do so would have been to reduce the amount of use of the recording medium as suggested by Takahashi (*Page 5, ¶ 0094*).

14. **Regarding claim 11**, Metcalfe discloses that the first user control includes a normal picture taking control on the electronic camera (*111 as shown in fig. 1*).

15. **Regarding claim 12**, the combined teaching of Metcalfe in view of Takahashi as discussed and analyzed in claim 1 further teaches that the saliency signal is a first saliency signal and further comprising a third user operable control to generate a second saliency signal (*As shown in Takahashi, figs. 4(b): 109; fig. 9(a): 109, 10: 109a, and 11: 109b, Takahashi discloses the use of a plurality of buttons to select from different auxiliary information to be assigned to the video signal (note that the buttons 109 are physically located on the camera). Furthermore, as shown in figs 23(a) and 23(b), Takahashi further discloses that the auxiliary information can be selected using a monitor, wherein the user can select the person information and the degree of importance of the persons using buttons 103m, 103n, 101m and 101n; page 8, ¶ 0119 (although these buttons are displayed on the touch screen display, the Examiner understands that the buttons are considered different user controls since they have different physical location on said display)*). Grounds for rejecting claim 1 apply here.

16. **Regarding claim 13**, the combined teaching of Metcalfe in view of Takahashi as discussed and analyzed in claims 1 and 12 further teaches saliency circuitry to combine the first and second signals to form a complex saliency signal (*the Examiner is reading the complex saliency signal as the combined information having the persons information and the degree of importance information as shown in Takahashi*), the complex saliency

signal being the saliency signal to control at least one operation (*The Examiner is reading the operation as the display operation in the camera in Takahashi as discussed in claim 1*) and the saliency signal stored by the memory (*As discussed in claim 1, Takahashi discloses that the auxiliary information has persons information and degree of importance of said persons and that the auxiliary information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26 (see persons information and the degree of importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) being arranged to be controlled in response to the saliency signal (based on the auxiliary information the display would display the auxiliary information as shown in figs. 25 and 26. Furthermore, the plurality of saliency signals are both stored in the memory and the display operation of the camera is performed based on the first and second saliency signals as they are input and stored in memory*). Grounds for rejecting claim 1 and 12 apply here.

17. **Regarding claim 14**, the combined teaching of Metcalfe in view of Takahashi as discussed and analyzed in claim 1 further teaches that the saliency signal is a first saliency signal (*As discussed in claim 1, the saliency signal in Metcalfe for controlling the level of interest of a captured scene is considered a first saliency signal as claimed. Furthermore, Takahashi further teaches the sue of a plurality of saliency signals to be used to control the operation of the camera as discussed in claim 1*) and further

comprising a saliency circuitry to generate an image related saliency signal in response to said image signal (*Metcalfe discloses controlling the reproduction operation of the camera based on the associated saliency signal to the image signal so that when reproducing the image signal with higher importance would be displayed differently from the other image signal. See page 4, line 5 – page 5, line 23; page 6, line 23 – page 7, line 8. Takahashi further discloses reproducing the video based on the importance level of the image, wherein only images with high importance level can be reproduced so that the user can enjoy the recorded work without feeling tired, and the power consumption is reduced to secure more driving time; page 10, ¶ 0131*).

18. **Regarding claim 15**, limitations have been discussed and analyzed in claim 13.

19. **Regarding claim 16**, **Metcalfe** discloses circuitry to incorporate the saliency signal in the image signal (*Metcalfe discloses incorporating said saliency signal (LOI) to each of the frames in the image signal. See page 4, line 5 – page 5, line 23; page 6, line 23 – page 7, line 8*).

20. **Regarding claim 17**, the combined teaching of Metcalfe in view of Takahashi as discussed and analyzed in claims 1 teaches that the second user control is part of the camera or is physically attached to the camera body (*See Metcalfe, controls in Fig. 1; see also Takahashi buttons 109 as shown in figs. 4(b), 9(b), 10 and 11, and buttons 103m, 103n, 101m, 101n as shown in figs. 23(a) and 23(b)*).

21. **Regarding claim 18**, the combined teaching of Metcalfe in view of Takahashi fails to teach that the second user control is a remote control for communication with the camera. However, the Examiner takes Official Notice that the concept of controlling a camera with a remote control is well known in the art at the time the invention was made and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the user control of Metcalfe and Takahashi a remote control as opposed to a camera-body integrated control. One would have been motivated to do so because it is well known in the art that by using a remote control to control some elements of a camera, the user does not have to be near the camera to send and receive desired signals from the camera. This is particularly advantageous in cases where plural cameras are used or cameras are placed out of the reach of the user (e.g. surveillance cameras), where the remote control would allow the user to send signals to the camera(s) from a separate location, thereby simplifying camera control for the user. It is noted that in the previous Office Action mailed on November 24, 2009, claim 18 was rejected taking Official Notice to the recited limitations. Because the Applicant failed to traverse the Examiner's assertion of Official Notice, the well known in the art statement is taken to be admitted prior art. See MPEP § 2144.03 [R-1] (C).

22. **Regarding claim 19**, **Metcalfe** discloses that the second user control comprises a physically movable control member (*pressure button that assign a level of interest of an image signal based on the pressure applied to said button) and a sensor arranged to be responsive to movement of the control member (See page 4, line 27 – page 5, line*

4). By teaching a pressure button that assigns a LOI of an image signal based on the pressure applied to the button, Metcalfe discloses a physically movable control member (in this case the pressure button as discussed in Metcalfe) and a sensor arranged to be responsive to movement of the control member since by teaching that the LOI is assigned based on the pressure applied to the button, the use of a sensor to determine the applied pressure in order to assigned the LOI of an image is inherent and necessitated in Metcalfe).

23. **Regarding claim 20**, the Examiner notes that the limitations "*the second user control comprises a pressure **or** force sensing transducer for deriving the saliency signal that can have values that are continuously variable",* the elements "pressure" **or** "force sensing transducer" are written as optional elements by using the word "**or**".

Metcalfe discloses that the second user control comprises a pressure or force sensing transducer for deriving the saliency signal that can have values that are continuously variable (*Metcalfe as applied to claim 19, teaches the use of pressure (pressure button that assign a level of interest of an image signal based on the pressure applied to said button; page 4, line 27 – page 5, line 4*) to determine the value of the saliency signal. By teaching that Metcalfe discloses the use of pressure applied to the button, Metcalfe discloses the use of pressure to derive the value of the saliency signal as claimed.

24. **Regarding claim 21**, limitations have been discussed and analyzed in claim 1.

25. **Regarding claim 23**, limitations have been discussed and analyzed in claim 4, noting that the limitations "...selectively pass or delete" are written as optional.

26. **Regarding claim 24**, limitations have been discussed and analyzed in claim 3.

27. **Regarding claim 25**, limitations have been discussed and analyzed in claim 5.

28. **Regarding claim 28**, limitations have been discussed and analyzed in claim 1. Note that Metcalfe and Takahashi, both teach user operable controls to generate the image signal (**Metcalfe** discloses an user operable control (*111 as shown in fig. 1*) to selectively activate the electronic camera to take pictures, and another user operable control to receive an input from a user and to generate, in response to the input from the user a saliency signal to indicate user interest in a picture (*Metcalfe discloses generating a level of interest (LOI) set by the user when using button 112*). Takahashi discloses a user operable control (*shooting button 104 as shown in fig. 4 (b)*) to selectively activate the electronic camera to take pictures, and another user operable control (*Takahashi discloses the use of buttons 109 to set auxiliary information*).

29. **Regarding claim 29**, limitations have been discussed and analyzed in claim 11. Furthermore Metcalfe discloses that the saliency signal can be produced by the same button for capturing video (*Page 4, lines 27-30*).

30. **Regarding claim 30**, limitations have been discussed and analyzed in claim 12.

31. **Regarding claim 31**, limitations have been discussed and analyzed in claim 13.

32. **Regarding claim 32**, limitations have been discussed and analyzed in claim 13.

33. **Regarding claim 33**, limitations have been discussed and analyzed in claims 13 and 14.

34. **Regarding claim 34**, limitations have been discussed and analyzed in claim 16.

35. **Regarding claim 35**, limitations have been discussed and analyzed in claim 17.

36. **Regarding claim 36**, limitations have been discussed and analyzed in claim 18.

37. **Regarding claim 37**, limitations have been discussed and analyzed in claim 19.

38. **Regarding claim 38**, limitations have been discussed and analyzed in claims 19 and 20.

39. Claims 2, 7, 22, 40, 42, 54 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe, AU 743216 B in view of Takahashi, US 2002/0041757 A1 and further in view of Matsumoto et al., US Patent 6,795,642 B2.

40. **Regarding claim 2**, although Takahashi teaches a compression circuitry (*See Takahashi, fig. 1: 15; page 5, ¶ 0097; page 6, ¶ 0105*) to compress the image signals and that although the invention is described on the premise that a shot picture is recorded, a shot picture is not necessarily recorded, and it can be used also when compressed video and audio data are transmitted as they are to be used on a network or the like (*page 10, ¶ 0130*), the combined teaching of Metcalfe in view of Takahashi fails to teach compressing the image signals to an extent determined by the saliency signal.

However, **Matsumoto et al.** teaches the concept of having a video recording apparatus (*Fig. 2*) of a surveillance system, recording video data captured by an electronic camera (*See fig. 1*), wherein when an alarm is activated, the importance of the video is determined to be high as compared to when the alarm is not activated (*Col. 3, lines 46-67*). Matsumoto et al. further discloses that based on the degree of importance given to the video signal, the data compression is also adjusted (*i.e. if the importance degree of the video is low, it would be compressed at high level and if the importance degree of the video is high, said video would be compressed at low level*) (*Col. 3, line 15 – col. 4, lines 19*). Matsumoto also discloses that the importance level can also be adjusted by the user operating the surveillance system (*Col. 7, lines 22-34*). Matsumoto et al. further discloses that by adjusting the compression of the video being

captured, it is possible to record the monitoring image data having a high degree of importance as much as possible (*Col. 7, lines 35-43*).

Therefore, taking the combined teaching of Metcalfe in view of Takahashi and further in view of Matsumoto et al. as a whole, it would have been obvious to one of ordinary skill in the art a the time the invention was made to apply the concept of adjusting the compression of a video captured by an electronic camera based on a degree of importance assign to the video as discussed in Matsumoto et al. to modify the teaching of Metcalfe and Takahashi by compressing the image signals to an extent determined by the saliency signal. The motivation to do so would have been to record the monitoring image data having a high degree of importance as much as possible as suggested in Matsumoto et al. (*Col. 7, lines 35-43*).

41. **Regarding claim 7**, the combined teaching of Metcalfe in view of Takahashi and further in view of Matsumoto et al. further teaches a management circuitry to selectively retaining in the memory images associated with higher saliency levels in preference to images with lower saliency levels (*Takahashi further discloses that the images are recorded or transmitted based on the importance level of the image, wherein only images with high importance level can be recorded in order to reduce the amount of use of the recording medium; page 5, ¶ 0094*).

42. **Regarding claim 22**, limitations have been discussed and analyzed in claim 2.

43. **Regarding claim 40**, **Metcalfe** discloses an imaging system (*See fig. 1*) comprising an electronic camera (*See fig. 1*) to produce an image signal, physically or mechanically operable user controls (*See user controls 106, 104, 111, 112, 110 and 108 as shown in fig. 1*), the user controls being arranged to receive an input from a user and to generate first saliency signal (*Metcalfe discloses the use of button 112 to generate a plurality of saliency signals (Level of interest signals "LOI") to be associated to the image signal being recorded with the camera*) while the image signal is being produced, and saliency circuitry (*the camera in Metcalfe inherently has a saliency signal circuitry to generate the saliency signal upon operation of the camera button 112*) for storing said first saliency signal (*Metcalfe discloses recording the plurality of saliency signals in a memory (tape 120 in fig. 1) in association with the image data; see page 4, line 5 – page 5, line 23; page 6, line 23 – page 7, line 8*), the saliency signal having at least one of (a) a value selected from at least three different discrete values (*Metcalfe discloses assigning a level of interest to the image data being recorded, wherein the user can variably assign a plurality of level of interest through the capture of the a video sequence; see Fig. 3. This teaches generating a saliency signal having a value from at least three different discrete values*), or (b) a value selected from a continuous range of values (*Metcalfe discloses assigning a level of interest to the image data being recorded, wherein the user can variably assign a plurality of level of interest through the capture of the a video sequence; see Fig. 3. This teaches generating a saliency signal having a value selected from a continuous range of values*), a memory (*120 as shown in fig. 1*) to store the image signal and the saliency signal in response to the saliency

signal (*page 4, lines 5-13; page 5, lines 4-35*), and operation of at least part of the electronic camera being arranged to be controlled in response to the saliency signal (*as discussed in page 6, line 31 – page 7, line 8, Metcalfe discloses that the saliency signal (LOI signal stored in memory 120) can be used to control the reproduction of the images (i.e. printing, creating thumbnail files for photo albums, etc.)) (See page 4, line 5 – page 5, line 23; page 6, line 23 – page 7, line 8*).

Metcalfe does not explicitly disclose at least two physically or mechanically operable user controls, each of the user controls for generating first and second saliency signals; that said saliency circuitry combines said first and second saliency signals to form a complex saliency signal; and that said memory stores the image signal in place of a stored image when the value of the saliency signal is greater than a value of a second saliency signal associated with the stored image and the memory is full.

However, **Takahashi** teaches an imaging system comprising an electronic camera (*See figs. 4(a), 4(b), 8, 9(a), 9(b), 10, and 11*) to produce an image signal representative of a viewed scene, a physically or mechanically operable user control (*Takahashi discloses the use of buttons 109 to set auxiliary information (which the Examiner is interpreting as the saliency information) related to the image data being captured; page 6, ¶ 0106. Takahashi further discloses the use of a pressure sensor 109a and sweat sensor 109b to determine the auxiliary information related to the image data (page 6, ¶ 0112 – page 7, ¶ 0114*) to receive an input from a user and generate a first saliency signal while the image signal is being produced (*Takahashi further discloses that the auxiliary information includes information related to the persons (i.e.*

son, daughter, friend, father, mother) (see figs. 23(a) and 23 (b); page 8, ¶ 0117 - page 9, ¶ 0124)) to receive an input from a user and to generate, in response to the input from the user a saliency signal (auxiliary information having information such as persons information)), saliency circuitry to automatically generate an image related second saliency signal in response to the image signal (*Takahashi further teaches that the auxiliary information includes a degree of importance of said persons appearing in the image data, and that said degree of importance can be determined based on the time length of a scene where a particular person set by the user appear; see page 8, ¶ 0119. Takahashi further teaches that the level of importance of a particular scene would have a value between 0 (0 = not important) and 1 (1 = most important) with increments of 0.1 that can be determined based on the excitement of the user by using a pressure sensor of a sweat sensor or by having a measurement of loudness in the scene being captured (See ¶ 0119). Takahashi further discloses that the level of importance which can be set manually could also be set automatically by use of said pressure, sweat or loudness sensors (Also in ¶ 0119)*), and circuitry to combine said first and second saliency signals while the image signal is being produced to provide a composite saliency signal (*Takahashi discloses that the auxiliary information has persons information and degree of importance of said persons and that the auxiliary information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26 (see persons information and the degree of*

importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) (This teaches the combination of the two saliency signals while the image signal is being produced (the persons information and the degree of importance information stored/displayed together in association with the image while the image is being captured upon operation of the user) to create a composite saliency signal as claimed. Therefore, by teaching that the person's information and the degree of importance information is stored/displayed together in association with the image, Takahashi discloses circuitry for combining said first and second saliency signals while the image signal is being produced to provide a composite saliency signal as claimed), wherein the first saliency signal, the second saliency signal, and the composite saliency signal are to indicate an amount of user interest in the viewed scene (Considering that the user sets the first saliency signal and the second saliency signal (*As discussed above, information related to the persons (i.e. son, daughter, friend, father, mother) and the level of importance of a particular scene would have a value between 0 (0 = not important) and 1 (1 = most important) with increments of 0.1 that can be determined based on the excitement of the user by using a pressure sensor of a sweat sensor or by having a measurement of loudness in the scene being captured (See ¶ 0119) and as shown in figs. 25 and 26, the composite saliency signal that is displayed on the screen having the first and second saliency signals combined to illustrate the level of importance of the scene being produced (page 8, ¶ 0118 – page 9, ¶ 0124)*), and the composite saliency signal is to be used to control operation of at least a part of the imaging system (*Takahashi discloses that the auxiliary information has persons information and degree of importance of said*

persons and that the auxiliary information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26 (see persons information and the degree of importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) being arranged to be controlled in response to the composite saliency signal (based on the auxiliary information the display would display the auxiliary information as shown in figs. 25 and 26).

Therefore, taking the combined teaching of Metcalfe in view of Takahashi as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of having the camera with a plurality of operation controls to generate different saliency signals to be combined to control the operation of the display to further displaying the combined saliency signal being assign to the image data as taught in Takahashi to modify the teaching of Metcalfe to have at least two physically or mechanically operable user controls, each of the user controls for generating first and second saliency signals; that said saliency circuitry combines said first and second saliency signals to form a composite saliency signal; that the operation of at least part of the electronic camera being arranged to be controlled in response to the complex saliency signal. The motivation to do so would have been to provide the user with a user friendly interface that would allow changing the degree of importance of the images being captured and would also allow the user to be aware of the information being added to the image data.

The combined teaching of Metcalfe in view of Takahashi fails to teach that the memory stores the image signal in place of a stored image when the value of the saliency signal is greater than a value of a second saliency signal associated with the stored image and the memory is full.

However, **Matsumoto et al.** teaches the concept of having a video recording apparatus (*Fig. 2*) of a surveillance system, recording video data captured by an electronic camera (*See fig. 1*), wherein when an alarm is activated, the importance of the video is determined to be high as compared to when the alarm is not activated (*Col. 3, lines 46-67*). Matsumoto et al. further discloses that based on the degree of importance given to the video signal, the data compression is also adjusted (*i.e. if the importance degree of the video is low, it would be compressed at high level and if the importance degree of the video is high, said video would be compressed at low level*) (*Col. 3, line 15 – col. 4, lines 19*). Matsumoto also discloses that the importance level can also be adjusted by the user operating the surveillance system (*Col. 7, lines 22-34*). Matsumoto et al. further discloses that by adjusting the compression of the video being captured, it is possible to record the monitoring image data having a high degree of importance as much as possible (*Col. 7, lines 35-43*). In col. 4, lines 4, lines 1-19, Matsumoto et al. further teaches that based on the degree of importance of the image data being recorded, when the memory has no residual capacity images that have lower level of importance would be identified and deleted or overwritten so that images with high degree of importance would be stored in the storage means (This teaches that the memory stores the image signal in place of a stored image when the value of the

saliency signal is greater than a value of a second saliency signal associated with the stored image and the memory is full as claimed).

Therefore, taking the combined teaching of Metcalfe in view of Takahashi and further in view of Matsumoto et al. as a whole, it would have been obvious to one of ordinary skill in the art a the time the invention was made to apply the concept of replacing images with lower level of importance with images captured with higher levels of importance when the memory has no residual capacity, images that have lower level of importance would be identified and deleted or overwritten as discussed in Matsumoto et al. to modify the teaching of Metcalfe and Takahashi by having the memory storing the image signal in place of a stored image when the value of the saliency signal is greater than a value of a second saliency signal associated with the stored image and the memory is full. The motivation to do so would have been to record the monitoring image data having a high degree of importance as much as possible as suggested in Matsumoto et al. (*Col. 7, lines 35-43*).

44. **Regarding claim 42**, the combined teaching of Metcalfe in view of Takahashi and further in view of Matsumoto et al. as discussed and analyzed in claim 40 further teaches a separate user operable picture taking control for selectively activating the electronic camera to take pictures (*As shown in Takahashi, figs. 4(b): 109; fig. 9(a): 109, 10: 109a, and 11: 109b, Takahashi discloses the use of a plurality of buttons to select from different auxiliary information to be assigned to the video signal (note that the buttons 109 are physically located on the camera). Furthermore, as shown in figs 23(a)*

and 23(b), Takahashi further discloses that the auxiliary information can be selected using a monitor, wherein the user can select the person information and the degree of importance of the persons using buttons 103m, 103n, 101m and 101n; page 8, ¶ 0119 (although these buttons are displayed on the touch screen display, the Examiner understands that the buttons are considered different user controls since they have different physical location on said display)).

45. **Regarding claim 54**, **Metcalfe** discloses an apparatus (*See fig. 1*) comprising an electronic camera (*See fig. 1*) having a picture taking control (button 111 as shown in fig. 1) to selectively activate the camera to store an image to a memory (*Fig. 1: 120*), the camera further including a user operable control (*button 112 as shown in fig. 1*) to generate a non-playback saliency signal (*the saliency signal generated in Metcalfe is a level of interest signal to indicate portion of the image signals that have certain degree of interest to be stored in the memory 120 in association with the saliency signal*) and picture selection circuitry (*circuitry is inherent in the Metcalfe reference to control the recording and reproduction of the video signals stored in the memory 120*) to selectively pass the picture signals in response to the saliency signal (*Metcalfe discloses that the user can select a saliency signal (LOI) to a particular image being captured, the saliency signal is stored in association with the image (See pages 5-7). Metcalfe further discloses that based on the stored saliency signal, the images would be reproduced, wherein when reproducing, the camera would select particular images based on the degree of importance (LOI) as set by the user when recording the images (See pages*

5-7; page 6, line 31 – page 7, line 8)). By teaching that the images with a high LOI would be selected for creating an album or to be printed with high quality further teaches that images that do not have a high LOI would be passed or skipped since only the images with a high LOI would be displayed in the virtual album. Metcalfe as applied reads on the limitations "... picture selection circuitry for selectively passing the picture signals in response to the saliency signal ..." since the display or skip of images is determined based on the saliency signal (LOI)) (See page 4, line 5 – page 5, line 23; page 6, line 23 – page 7, line 8).

Although Metcalfe discloses selectively passing the image signals during reproduction of the video based on the saliency signal, Metcalfe does not explicitly disclose selectively passing the image to the memory in response to the saliency signal and that the memory is to retain or discard the image based on a value of the saliency signal.

However, **Takahashi** teaches an imaging system comprising an electronic camera (*See figs. 4(a), 4(b), 8, 9(a), 9(b), 10, and 11*) to produce an image signal representative of a viewed scene, a physically or mechanically operable user control (*Takahashi discloses the use of buttons 109 to set auxiliary information (which the Examiner is interpreting as the saliency information) related to the image data being captured; page 6, ¶ 0106. Takahashi further discloses the use of a pressure sensor 109a and sweat sensor 109b to determine the auxiliary information related to the image data (page 6, ¶ 0112 – page 7, ¶ 0114*) to receive an input from a user and generate a first saliency signal while the image signal is being produced (*Takahashi further*

discloses that the auxiliary information includes information related to the persons (i.e. son, daughter, friend, father, mother) (see figs. 23(a) and 23 (b); page 8, ¶ 0117 - page 9, ¶ 0124)) to receive an input from a user and to generate, in response to the input from the user a saliency signal (auxiliary information having information such as persons information)), saliency circuitry to automatically generate an image related second saliency signal in response to the image signal (*Takahashi further teaches that the auxiliary information includes a degree of importance of said persons appearing in the image data, and that said degree of importance can be determined based on the time length of a scene where a particular person set by the user appear; see page 8, ¶ 0119. Takahashi further teaches that the level of importance of a particular scene would have a value between 0 (0 = not important) and 1 (1 = most important) with increments of 0.1 that can be determined based on the excitement of the user by using a pressure sensor of a sweat sensor or by having a measurement of loudness in the scene being captured (See ¶ 0119). Takahashi further discloses that the level of importance which can be set manually could also be set automatically by use of said pressure, sweat or loudness sensors (Also in ¶ 0119)*), and circuitry to combine said first and second saliency signals while the image signal is being produced to provide a composite saliency signal (*Takahashi discloses that the auxiliary information has persons information and degree of importance of said persons and that the auxiliary information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed*

in the display as shown in figs. 25 and 26 (see persons information and the degree of importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) (This teaches the combination of the two saliency signals while the image signal is being produced (the persons information and the degree of importance information stored/displayed together in association with the image while the image is being captured upon operation of the user) to create a composite saliency signal as claimed. Therefore, by teaching that the person's information and the degree of importance information is stored/displayed together in association with the image, Takahashi discloses circuitry for combining said first and second saliency signals while the image signal is being produced to provide a composite saliency signal as claimed), wherein the first saliency signal, the second saliency signal, and the composite saliency signal are to indicate an amount of user interest in the viewed scene (Considering that the user sets the first saliency signal and the second saliency signal (*As discussed above, information related to the persons (i.e. son, daughter, friend, father, mother*) *and the level of importance of a particular scene would have a value between 0 (0 = not important) and 1 (1 = most important) with increments of 0.1 that can be determined based on the excitement of the user by using a pressure sensor of a sweat sensor or by having a measurement of loudness in the scene being captured (See ¶ 0119) and as shown in figs. 25 and 26, the composite saliency signal that is displayed on the screen having the first and second saliency signals combined to illustrate the level of importance of the scene being produced (page 8, ¶ 0118 – page 9, ¶ 0124)*), and the composite saliency signal is to be used to control operation of at least a part of the imaging system (*Takahashi discloses*

that the auxiliary information has persons information and degree of importance of said persons and that the auxiliary information is stored with the image signal and further discloses that the camera would also display the auxiliary information on a display screen (As shown in figs. 23, the user would set the auxiliary information and the set auxiliary information would be displayed in the display as shown in figs. 25 and 26 (see persons information and the degree of importance displayed on the display); page 8, ¶ 0118 – page 9, ¶ 0124)) being arranged to be controlled in response to the composite saliency signal (based on the auxiliary information the display would display the auxiliary information as shown in figs. 25 and 26). Also, Takahashi teaches that the important images from a captured video can be extracted so that only scenes of high degrees of importance can be efficiently recorded or transmitted as compared with the case where all of the shot scenes are stored or transmitted and that the extraction of the scenes of high degrees of importance may be carried out during or after shooting of the scenes (*See page 5, ¶ 0094; page 10, ¶ 0130*) (*This teaches the concept of selectively passing the image to the memory in response to the saliency signal and that the memory is to retain or discard the image based on the value of the saliency signal as claimed since the image signals would be either recorded or transmitted based in the priority given to the scenes so that only important scenes are transmitted or recorded while said scenes are being captured*).

Therefore, taking the combined teaching of Metcalfe in view of Takahashi as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of selectively recording image data in a

memory in response to an assigned priority to scenes in the image data as taught in Takahashi to modify the teaching of Metcalfe to selectively pass the image to the memory in response to the saliency signal. The motivation to do so would have been to reduce the amount of use in the recording medium and reduce the communication costs as suggested by Takahashi (*Page 5, ¶ 0094*).

The combined teaching of Metcalfe in view of Takahashi fails to teach that the memory is to retain or discard the image based on the value of the saliency signal.

However, **Matsumoto et al.** teaches the concept of having a video recording apparatus (*Fig. 2*) of a surveillance system, recording video data captured by an electronic camera (*See fig. 1*), wherein when an alarm is activated, the importance of the video is determined to be high as compared to when the alarm is not activated (*Col. 3, lines 46-67*). Matsumoto et al. further discloses that based on the degree of importance given to the video signal, the data compression is also adjusted (*i.e. if the importance degree of the video is low, it would be compressed at high level and if the importance degree of the video is high, said video would be compressed at low level*) (*Col. 3, line 15 – col. 4, lines 19*). Matsumoto also discloses that the importance level can also be adjusted by the user operating the surveillance system (*Col. 7, lines 22-34*). Matsumoto et al. further discloses that by adjusting the compression of the video being captured, it is possible to record the monitoring image data having a high degree of importance as much as possible (*Col. 7, lines 35-43*). In col. 4, lines 4, lines 1-19, Matsumoto et al. further teaches that based on the degree of importance of the image data being recorded, when the memory has no residual capacity images that have lower

level of importance would be identified and deleted or overwritten so that images with high degree of importance would be stored in the storage means (*This teaches that the memory is to either retain or discard the image based on a value of the saliency signal as claimed since the memory would store the image signal in place of a stored image when the value of the saliency signal is greater than a value of a second saliency signal associated with the stored image and the memory is full as claimed*).

Therefore, taking the combined teaching of Metcalfe in view of Takahashi and further in view of Matsumoto et al. as a whole, it would have been obvious to one of ordinary skill in the art a the time the invention was made to apply the concept of replacing images with lower level of importance with images captured with higher levels of importance when the memory has no residual capacity, images that have lower level of importance would be identified and deleted or overwritten as discussed in Matsumoto et al. to modify the teaching of Metcalfe and Takahashi by having the memory retaining or discarding the image based on the value of the saliency signal. The motivation to do so would have been to record the monitoring image data having a high degree of importance as much as possible as suggested in Matsumoto et al. (*Col. 7, lines 35-43*).

46. **Regarding claim 56**, limitations have been discussed and analyzed in claim 54.

47. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Misawa et al., US 2002/0118285 A1 in view of Hayashi, US 2002/0031349 A1.

48. **Regarding claim 51, Misawa et al.** discloses an apparatus comprising an electronic camera (*See figs. 1 and 2*) having a picture taking control to selectively activate the camera (*shutter button 14 as shown in fig. 2*), a user operable control (*priority selection switch 16 as shown in fig. 2; page 2, ¶ 0026-0029 and ¶ 0035; page 3, ¶ 0037-0044*) to generate a saliency signal when the picture taking control activates the camera (*Misawa et al. discloses generating a particular priority given to the image based on the selection made by the user (page 2, ¶ 0026-0029 and ¶ 0035; page 3, ¶ 0037-0044)*), the saliency signal to include plural values (*Note that the Examiner is interpreting the priority given to the images as the saliency signal as claimed which contains difference priority values such as normal, high and memo as shown in fig. 3. See page 2, ¶ 0027*) and a memory (*Fig. 1: 40*) (*Page 2, ¶ 0033; page 3, ¶ 0036-0040 and ¶ 0043-0044*) and having a capacity to store picture signals determined in response to the saliency signal (*Misawa et al. discloses that that when capturing images if the priority of the image being captured is high and the capacity of the memory 40 is not enough to store the image, images with lower priority would be erased to provide space to store the new image having higher capacity. In the case that the new captured image has a lower capacity compared to the images already stored in memory, said new image with lower capacity would not be stored and a message would be displayed indicating that no memory capacity is available (Page 3, ¶ 0038-0045). This teaches that the memory has a capacity to store picture signals determined in response to the*

saliency signal as claimed since the capacity of the memory is being controlled based on the priority given to the images), wherein the capacity of the memory is to adaptively change in response to a change in the value of the saliency signal *(As discussed above, Misawa et al. discloses that when capturing images if the priority of the image being captured is high and the capacity of the memory 40 is not enough to store the image, images with lower priority would be erased to provide space to store the new image having higher capacity. In the case that the new captured image has a lower capacity compared to the images already stored in memory, said new image with lower capacity would not be stored and a message would be displayed indicating that no memory capacity is available (Page 3, ¶ 0038-0045). This teaches that the capacity of the memory is to adaptively change in response to a change in the value of the saliency signal as claimed since the memory is to adaptively change its capacity based on the priority selected by the user for a current image (i.e. if the user selected a high priority and the memory is already full, the camera would erase an image with normal priority to store the image with high priority*). Misawa et al. further discloses that although the invention has been discussed with reference to still images, the invention can also be applied to motion images (*Page 4, ¶ 0063*).

Misawa et al. does not explicitly disclose that said memory is a buffer memory.

However, **Hayashi** discloses an electronic camera (*See fig. 1*) comprising a picture taking control for selectively activating the camera to derive input picture signal (*Operating member 27 as shown in fig. 1; page 3, ¶ 0050*) and a buffer memory for receiving the input picture signals (*Hayashi teaches that the microprocessor 25 includes*

a buffer that is capable of adjust its capacity in accordance with the requirements to meet a god display resolution and the minimum number of continuous shots to be guaranteed (Page 3, ¶ 0054; page 4, ¶ 0080)) and having a capacity for the input picture signals determined in response to the needs for properly store/display the image data (*As discussed before, Hayashi discloses that the capacity of the buffer is modified to allow proper display and storage of the image data being captured so that the capacity of the buffer is either reduced or increased accordingly (Pages 4-5, ¶ 0076-0026)*). Hayashi further teaches that by adjusting the size or capacity of the buffer in accordance to the data being captured, an improvement on the timing for processing image is attained so that shooting and recording time of images is reduced (*Page 5, ¶ 0097-0098*).

Therefore, taking the combined teaching of Misawa et al. in view of Hayashi as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the teaching of using a buffer that has a capacity that can be adjusted as taught in Hayashi to modify said memory in Misawa et al. to use a buffer to store the image signals as an alternative to the memory 40. The motivation to do so would have been to improve the timing for processing image is attained so that shooting and recording time of images is reduced as suggested by Hayashi (*Page 5, ¶ 0097-0098*).

Conclusion

49. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernández Hernández whose telephone number is (571)272-7311. The examiner can normally be reached on 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lin Ye/
Supervisory Patent Examiner, Art Unit 2622

NDHH
April 10, 2010